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South Korea's drive for renewable energy

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South Korea looks to renewable energy to drive growth

The inside of a wind turbine is an odd kind of place: somewhere between upside-down coal-mine and lighthouse.

The noise of clanging steel echoes up the 60m (197ft) ladder, as heavy switches are tripped, dials monitored and the huge blades outside start their slow circling whoosh.

Wind power is becoming increasingly important to South Korea - not just as a way to help meet ambitious targets on greenhouse gas emissions, but also as a way to boost the economy.

"Green Growth" has been a key national strategy since President Lee Myung-bak took office four years ago.

It's given rise to a vast range of policies - from waste-management to air-quality to renewable energy. And - this being South Korea - exports are a central part of that.

"Exports are very important for us," explains Joo Hyunghwan, head of Korea's Presidential Committee on Green Growth.

"We are not well-endowed with renewable resources but we need to increase our energy mix.

And we want to develop renewable technologies into a strategic export industry."



All the turbines on the Gangwon Province wind farm were imported from Europe

South Korea is relatively late to the green technology market. Europe is the established leader in wind turbines - and even China is judged to be steaming ahead.

Korea completed its first wind farm five years ago. Spread across a beautiful series of hills in Gangwon Province, near the country's eastern coast, the wind farm produces an impressive 240MW per year.

But all the turbines here are European. Just a few years ago, when the farm was built, there were no Korean turbines - Korea's big companies hadn't begun making them yet.

And now that they have, no-one seems very keen to buy them - even here at home.

Foreign advantage

Inside the wind turbine's echoing steel frame, the general manager of the wind farm, Kim Hyun-Tae, tells me of his reservations about buying domestic wind technology.

"People say the quality's about the same, but Korean turbines don't have the track record that the European ones do - they haven't really been tested," he says.

"If I had to buy more turbines now, I'd buy foreign ones."



South Korea wants 10% of the global renewable technology market by 2020

A big part of the problem is a lack of space. South Korea simply doesn't have many locations that offer both strong winds and access to install turbines. That makes exports even more important - but without space to test and showcase your products, it's hard to persuade customers to buy them.

And if Korean companies can't even interest the domestic market in their products, some say, how are they going to win at the international level?

Justin Wu, lead wind analyst for Bloomberg's New Energy Finance, says Korea is starting its wind industry at a difficult time, with falling prices and shrinking demand.

But, he says, South Korea firms are also good at "leapfrogging" - buying up European expertise, or even European companies, to help them catch up.

South Korea, he says, has been in this position before, beating off competition from both Western and Japanese carmakers in the 1980s.

One Korean turbine manufacturer, Unison, is even setting up a factory in China to compete with the Chinese for the turbine market there.

"Korea is basically an export-driven country," Unison's international head, Ham Bom-sik, says. "When we developed wind turbines, our main focus was overseas".

The company's exports have got off to a slow start - a couple of projects in Jamaica and the Seychelles, and another order for South America.

World beater

It seems quite a leap to the government's stated aim of cornering 10% of the global market in renewable technologies by 2020.

But if there's one thing South Korea knows how to do, it's export industries.



South Korea has pledged that 11% of its total energy will come from renewables by 2030

This is the country that grew an OECD economy from a standing start, in 50 years, on the back of industrial exports; the country that gave us brands like Samsung, Hyundai and LG; a country that ignored much of the early advice it was given by Western advisers and rose in already-competitive markets by making things the world wanted to buy.

And all that industrial experience - in shipbuilding, steel and semiconductors, for example - has left South Korea with transferable skills particularly suited to making solar panels or wind-

turbines.

It also left it with strong, well-disciplined conglomerates, tightly knit into the rest of the economy. Conglomerates, says Justin Wu, "that have a strong desire to move into this new business area".

And now - as a generation ago - the government has offered a crucial helping hand to kick-start Korea's flagship industries. Not just in the form of subsidies and soft loans, but in helping to create domestic demand.

According to Mr Joo from the president's Green Growth Committee, the creation of a domestic market for renewables is key to developing the country's exports.

"The two are closely linked," he says. "By creating demand in the domestic market, you generate a test bed, which will pave the way for our wind companies to export their products to the outside world."

The government has said that all utilities companies must generate 2% of their energy from renewables by next year. That figure goes up to 10% by 2022.

Domestic champion

At one of Seoul's main power plants, renewables director Hong Young-jin shows off the tall wind turbines whirring above a building site.



The country has several tidal power plants in the planning stage

They are building a new coal-fired power plant, he says, to feed South Korea's growing energy needs. But they are also acting as a test bed for wind-turbines from three separate Korean companies, as well as Korean-made solar panels and micro-hydro systems, providing them with crucial, real-life data on their performance.

"Perhaps if we were a private company, we'd see things in purely economic terms," Mr Hong explains.

"But we're a public company and we feel we have a role to play in fostering Korean industry."

South Korea has pledged that 11% of its total energy will come from renewables by 2030. It currently makes up just over 2%.

Meeting that target, say government advisers, will need more than a token wind farm on the sidelines of Korea's big power-plants.

South Korea, they say, will need to push ahead with controversial projects like its first tidal power plant - the world's biggest - completed off the western coast a few months ago.

Several more tidal plants are planned. But opposition - from fishermen and environmental groups - has slowed progress to a crawl.

Mr Joo says the government is planning to loosen environmental regulations to make it easier for companies to press ahead with renewables.

But how loose is a dilemma that goes right to the heart of South Korea's key national strategy: exactly how much green can you combine with growth?